

# METRANS NEWS

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## METRANS RESEARCH

### METRANS Receives \$3.7 Million Grant to Study Challenges of Urban Freight

By Megan Goulding and Merrill Balassone, USC

*The new center aims to streamline the flow of goods through city centers and improve traffic congestion, air quality and urban livability.*

The Volvo Research and Educational Foundations (VREF) awarded METRANS a \$3.7 million grant to establish a Center of Excellence in urban freight research.

The center, called METROFREIGHT, will research ways to streamline the transportation, handling and storage of goods in city centers, while working to reduce the impact on traffic congestion, air quality and urban livability.

"Urban freight contributes to congestion, competes with passengers for scarce road and rail space, and negatively affects the livability of metro areas," said METRANS director Genevieve Giuliano. "We aim to develop a better understanding of urban freight problems and develop effective, sustainable and implementable strategies for solving these problems." *continued on page 2*

## METRANS OUTREACH

### METRANS Hosts Los Angeles Mayor Villaraigosa

By Matthew Kredell, USC

Los Angeles Mayor Antonio Villaraigosa came to the USC campus to discuss his transportation legacy and the future of transportation in the city with faculty, researchers, students, METRANS Associates, government, and industry. The event was held on May 1st, and co-sponsored by METRANS and the USC Bedrosian Center on Governance and Public Enterprise.

Villaraigosa, who will complete his eight years as mayor in July, billed himself early on as the "transportation mayor" and backed up the moniker by making a significant impact on the city's transportation system that will be felt for decades to come.

METRANS director Genevieve Giuliano, Bedrosian Center director Raphael Bostic and audience members posed questions to the mayor.

Giuliano provided background on L.A.'s history of innovation in transportation. In the early 20th Century, the Los Angeles region had the largest intercity rail system in the United States. In the 1920s and 30s, L.A. led the nation in the adoption of the automobile and high-speed roads. What is now State Highway 110 was the first freeway opened in the western U.S. in 1941. Proposition A in 1980 launched the concept of restructuring Los Angeles around public transit, an approach that Villaraigosa has continued.

"Suffice it to say that Mayor Villaraigosa has more than carried out the tradition of innovation and creative problem solving in transportation," Giuliano said. "With Mayor Villaraigosa we have seen a renewed commitment to a high-capacity public transit system, the development of bike and pedestrian facilities, an unprecedented effort to reduce air pollution at the ports and a national effort to leverage local funds to accelerate capital investments." *continued on page 2*



METRANS Director Genevieve Giuliano, Los Angeles Mayor Antonio Villaraigosa, and Bedrosian Center Director Raphael Bostic.

**METRANS**  
Transportation Center  
USC | CSULB

*METRANS, a partnership of the University of Southern California and California State University, Long Beach, is a US Department of Transportation designated University Transportation Center. Its mission is to solve transportation problems of large metropolitan areas through research, education and outreach.*

## METRANS RESEARCH

# METRANS Receives \$3.7 Million Grant to Study Challenges of Urban Freight, cont'd

METROFREIGHT is a VREF Center of Excellence with university partners in Los Angeles/Long Beach, New York, Paris and Seoul, Korea. The new Center's research priorities include:

**Reducing congestion and heavy truck traffic:** In Los Angeles, New York, and Paris, local truck deliveries account for about 1/6 of all urban traffic. The Center will conduct research on how potential solutions such as the consolidation of freight across firms or evening and night deliveries can be implemented.

**Improving air quality:** In the Los Angeles region, about half of all particulate emissions are from freight, and diesel particulate emissions are a significant pollution source in cities around the world. The Center will explore methods for increasing efficiency of freight movements and the potential for cleaner fuel vehicles.

**Changing patterns of location and behavior:** The Center will examine trends in the location of logistics and manufacturing facilities, and in consumer and producer behavior, such as the growth of e-commerce. The purpose is to better understand demand for freight deliveries and how they may best be managed.

The METROFREIGHT team includes Maged Dessouky, professor of Industrial and Systems Engineering; and Petros Ioannou, professor of Electrical Engineering, both from the USC Viterbi School of Engineering, and CSULB team members include Seiji Steimetz, associate professor of Economics, and Thomas O'Brien, CITT's director of research. O'Brien will coordinate METROFREIGHT's professional education efforts including the development of courses for industry and policy makers that can be adapted to the needs of all center partners and a curriculum guide for faculty looking to develop urban freight coursework.

"In addition to building a global network of scholars, this award will enable the center to contribute to the field more broadly by widely disseminating data, information, results, and education materials on the challenges of urban freight," says team member Thomas O'Brien.

### About the Volvo Research and Educational Foundations

The Volvo Research and Educational Foundations are comprised of four foundations that collaborate to finance research and education in the areas of transportation, environment and energy. Through the Foundations' "Future of Urban Transportation" program, VREF seeks to develop urban transport systems that will provide accessibility for the masses, while at the same time radically reducing transportation's negative local and global environmental impacts. For more information and a list of other Centers of Excellence, visit [www.vref.se](http://www.vref.se)

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## METRANS OUTREACH

# METRANS Hosts Los Angeles Mayor Villaraigosa, cont'd

Careful to mention that these were joint efforts and not just his own doing, Villaraigosa said his two greatest accomplishments in transportation have been Measure R, the half-cent sales tax increase for L.A. County that was approved by voters in 2008, and America Fast Forward, the program proposed by Mayor Villaraigosa and L.A. Metro to allow acceleration of transit construction projects by borrowing against the future revenues from the local sales tax measures (Measure R, Propositions A and C), and receiving low interest, federally guaranteed loans to finance early construction. Mayor Villaraigosa stated that the results of Measure R and innovative financing are already being seen with the construction of the Expo Line already are being seen in metro expansion, including the Expo line, the Orange line and its extension, and the East L.A. Gold line, with the second stage of the Expo line, Gold line extension to Azusa, and the Crenshaw line on the way.

Smaller successes include signal synchronization, the 405 carpool lane, the introduction of high-occupancy toll lanes, reduced truck emissions, a \$2 billion investment and 20,000 jobs to grow the Port of Los Angeles, and \$4 billion and 40,000 jobs to expand Los Angeles International Airport.

"It wasn't just building a transportation system, it was reimagining a city," Villaraigosa said. "Not only are we building public transportation, we've got to get zoning and entitlements around transportation corridors and stations to create a city where vertical density is beautiful, but we're also going greener, safer and more civic-minded."

It's no surprise that Villaraigosa's biggest disappointment was the failure of Measure J, which would have extended the half-cent tax another 30 years to allow further bonding against the future. It fell less than a percent

short on November's ballot of the two-thirds vote needed to pass a tax increase in California.

"That was a big blow to acceleration and to smart, innovative ways to finance projects at a time when the federal government is missing in action," Villaraigosa said. "This is the only place where you can have a landslide and still not get something passed. That's how difficult it is to do good public policy."

Villaraigosa said he has gone to Sacramento and asked for a bill to lower the requirement on measures to raise taxes to 55 percent – something he will continue pushing for after his two terms as mayor conclude.

Although he aspires to hold higher public office, Villaraigosa said he would always be a promoter of Los Angeles. Other areas he will continue to address include public-private partnerships, innovative transportation investments and environmental laws that he called too restrictive on infrastructure projects.

More specifically for Los Angeles transportation, he envisions a subway running underneath the 405 Freeway connecting the San Fernando Valley to West Los Angeles with a high-occupancy lane running above to generate the needed funds for the rail in a public-private partnership, as well as a rail connector to the airport.

"Those are the kinds of things we're going to have to think about in a world of gridlock, partisanship and the lack of political will to make investments in infrastructure," Villaraigosa said. "The things we're doing here, everybody's watching us because if it's successful here, it's going to be successful around the country."

# Seamless Multi-Modal Connectivity Colloquium: Emerging Knowledge for Ridesharing

By Huayu Xu, Maged Dessouky, Kevin Holliday, Matthew Kridler, USC



*Dr. Maged Dessouky  
Workshop Chair, Professor  
and Director of The Daniel J.  
Epstein Institute (USC)*

METRANS researcher Maged Dessouky hosted the workshop “Seamless Multi-Modal Connectivity Colloquium: Emerging Knowledge for Ridesharing,” held at the University of Southern California (USC) on May 6, 2013. The colloquium attracted speakers and participants from all over the globe, and attendees hailed from all corners of academia, industry, and government.

Currently, formal rideshare programs are limited to large employers and non-profit rideshare facilitators. Most of the ridesharing that occurs is informal and household-based.

Some travelers make use of ridesharing opportunities, but only in few locations are there regular ridesharing alternatives. For instance, some semiformal ridesharing practices are “slugging” in Washington D.C. and “casual carpooling” in the San Francisco Bay Area. Unfortunately, examples like these are outliers, and METRANS researchers are investigating the concept of formal ridesharing mechanisms that could service a larger share of travelers and be replicated nationwide.

“The goal of the workshop,” says Dr. Maged Dessouky, workshop chair, professor and director of The Daniel J. Epstein Institute (USC), “was to build a bridge between current ridesharing practice and relevant research on transportation systems to facilitate a dialogue that can help in creating such ridesharing mechanisms.” Themes of the workshop included operational: matching schedules; pricing; attracting users: trust/reputation; and legal (institutional and regulation). Nine speakers from the ridesharing field and industry were invited to participate and give 30-minute presentations. There were also software demonstrations from top industry leaders, such as Avego, Flinc, etc.

Dr. Fernando Ordóñez, professor at USC and Universidad de Chile, presented his work on three different challenges that arise when trying to envision a distributed system for negotiating routes and prices between consumers and providers of transportation in real time. Specifically, he introduced a veritable “Transportation Market”, aiming toward a networked market for transportation in which consumers and providers of transportation negotiate with each other to determine routes and prices. The three challenges addressed were developing 1) a system to estimate the cost that drivers must set to bid for ridesharing trip requests by passengers; 2) new mechanisms to share trip costs to foster participation; and 3) equilibrium models that can accurately represent ridesharing.

Dr. Mark Burris, associate professor at Texas A&M University, led the discussion on ridesharing pricing. “As of January 2013, there are 12 cities in the United States that have priced managed lanes,” quoted Dr. Burris, “and many more cities are contemplating their use.” The majority of

these priced managed lanes were High Occupancy Vehicle (HOV) lanes prior to adding the pricing component which later became priced lanes allowing Single Occupancy Vehicle (SOV) travel for a toll. It is interesting to consider the impact this new travel option has on carpoolers. Will some carpoolers break up now that they may drive on the HOV lane for a toll? Conversely, will some SOV travelers try the managed lane for a toll, enjoy using the lane, and work to form a carpool to avoid paying the toll?

In addition to the pricing issues, it is also intriguing to investigate other factors that may attract ridesharing users. John P. Attanucci, lecturer and research associate at Massachusetts Institute of Technology, presented a report on innovative efforts by local policymakers and large employers and institutions in Cambridge, MA, as well as a new project to help convince such employers of their “power” to change commuting behavior. The project seeks to marry the available new information and payment technologies with a series of benefit pricing and other incentive policies to encourage commuters to initially try alternative modes and to begin to incorporate those modes into their normal commuting patterns.



*Colloquium participants, host Maged Dessouky front row, third from right.*

Finally, a sustainable and persistent ridesharing market cannot survive without the support and enhancement of legal institutions and regulations. Peter Engel, program manager at Contra Costa Transportation Authority, presented a demonstration from Contra Costa County, whose purpose is to see if some level of critical mass can be achieved using affinity groups in suburban environments to use real time rideshare software to share vehicle trips. The affinity group concept would, in theory, reduce the stranger barrier to carpooling. Dr. Martin Savelsbergh, professor at the University of Newcastle, noted that to encourage (multimodal) ridesharing and to ensure its sustainability, it is highly likely that incentives will be needed, at least until a sizeable user base has been established. Incentive schemes and/or government policies that stimulate ridesharing (and understanding the trade-offs between their cost and effectiveness) must be considered.

## METRANS OUTREACH

# METRANS Prepares for Upcoming International Urban Freight Conference

By Kate Amissah, USC MSCE 2013



## 2013 I-NUF

5th **METRANS International** Urban Freight Conference  
October 8-10, 2013 The Westin Long Beach Hotel, CA

The 5th METRANS International Urban Freight Conference (I-NUF) will be held October 8-10, 2013, at The Westin Long Beach Hotel in Long Beach, California. The conference's new international focus is reflected in the number of proposed presentations and papers received from researchers from 16 countries across the globe as well as a significant number of submissions from throughout the United States. The conference, which features a diverse set of presentations, spotlight sessions, panels, interviews, and a site visit to Ralphs Distribution Center and the Alameda Corridor, will provide a forum for sharing emerging, multi-disciplinary research on all aspects of freight in metropolitan areas.

Featured speakers include Charles L. (Chuck) Holland, Vice President of Engineering, UPS, and Jake Racker, Regional Logistics Director, Ralphs Grocery Stores. I-NUF will also spotlight the work of the Transportation Research Board's Urban Freight Committee.

Henrik Nolmark, director of the Volvo Research and Educational Foundations (VREF), will join the conference to help kick off METRANS' new METROFREIGHT Center of Excellence.

Selected papers presented at I-NUF will also be published in "Managing Urban Freight," a special volume of the journal of Research in Transportation Business and Management (RTBM), edited by METRANS director Genevieve Giuliano.

For updated and detailed information about I-NUF including registration and sponsorship, visit [www.metrans.org](http://www.metrans.org).

## METRANS OUTREACH

# ILWU Joins METRANS Associates Program as Bronze Partner

by Olixel Mora, CSULB, BA Geography, 2014



METRANS Deputy Director Marianne Venieris with International Longshore and Warehouse Union officials (ILWU) l-r: Daniel Miranda President ILWU Local 94; Dr. Domenick Miretti, ILWU Liaison – Ports of LA and LB; Michael Podue, President, ILWU Local 63 at Town Hall 2013.

*The METRANS Associates Program provides the core support for the METRANS Transportation Center. This is the first in a series of articles spotlighting our Associates.*

The more than decade long partnership between labor and academia is unique to METRANS and the Southern California International Longshore and Warehouse Union (ILWU). Domenick Miretti, Senior Liaison for the Ports of Los Angeles and Long Beach notes that this relationship is "not seen in any other place in the country." The ILWU mission is to advocate for fair wages, safe working conditions, and a nondiscriminatory workplace for dock workers in the US and Canada. The ILWU has over

40,000 members in more than 60 local unions in the states of California Washington, Oregon, Alaska and Hawaii. Another 3,500 members belong to the Inlandboatmen's Union of the Pacific (the Union's Marine Division) and another 14,000 members belong to the autonomous ILWU Canadian Area. However, the influence of the ILWU reaches well beyond North America. ILWU labor solidarity has helped shape the creation and operation of port related unions across the globe, most notably those in Australia, England, China and Japan.

Becoming a METRANS Associate was a logical step for the ILWU says Miretti, who crafted the joint Bronze Sponsor membership of Los Angeles/Long Beach Port Locals 13 (Longshore Workers), 63 (Marine Clerks), and 94 (Foremen). He notes that METRANS gains valuable insight from the union and its workers, who provide insight on needed goods movement research, and that the workers in turn appreciate their interaction with students and faculty from California State University Long Beach and the University of Southern California. Miretti credits the partnership with METRANS as key to keeping the ILWU operating with knowledge of new cutting edge research that might affect the ports and more specifically, the dock workers. He points to the CITT Town Hall meetings, which directly address important, timely issues that affect the ILWU, as the most valuable outreach activity for the port workers.

Miretti calls this collaboration nothing short of a win-win situation, for METRANS, the ILWU and port cities worldwide, and he is looking forward to a continuing and evolving relationship. "Congratulations to METRANS and the CITT; they have brought the university to the docks and the docks to the university," he says. "Everyone benefits from this partnership."

## METRANS OUTREACH

# 2013 Town Hall Focuses on Efficiency and Competiveness

By Sharon Seymore, USC MPA 2016

"Efficiency and Competiveness: Securing Cargo and Jobs" was the topic of the 2013 CITT State of the Trade and Transportation Industry Town Hall Meeting held May 15, 2013. The event was sponsored by METRANS and CSULB's College of Continuing and Professional Education (CCPE). METRANS Director Genevieve Giuliano, Deputy Director Marianne Venieris, and CSULB Provost Donald Para offered welcoming remarks. This town hall style meeting engaged stakeholders from segments of the industry and the communities through which trade passes to discuss strategies that make Southern California a competitive region for global trade. A panel discussion moderated by METRANS Associate Director of CSULB Programs Thomas O'Brien touched upon a range of topics, including infrastructure investment, technology, and changes in operations at the ports and along the entire supply chain. The panelists were Alan McCorkle, APM Terminals; Michael Podue, Marine Clerks Association – ILWU Local 63; Jeff Coppersmith, Coppersmith Global Logistics; Roger Rowe representing the community; and Vic La Rosa, Total Transportation Services.

A 20-minute documentary produced by CSULB's Advanced Media Production provided an overview of the complexity of stakeholder relationships in the Southern California goods movement industry. It provided a comprehensive

assessment of how logistical planning and implementation actually work in the harbor community and suggested how those logistical arrangements could be improved to provide greater efficiency and faster throughput for cargo container delivery. The video provided analytical fodder for the panel discussion at the Town Hall event and will be used extensively for other training activities and outreach efforts, as well as website, YouTube, and Beach TV presentations.

The CITT Town Hall meetings provide a forum where an array of organizational leaders in transportation logistics, labor, engineering, business, education and local government can engage in dialogue to cultivate thoughts and collaborative efforts to benefit goods movement. Their cooperative efforts foster an environment that seeks resolutions for future challenges at the Port of Long Beach and Port of Los Angeles.

Town Halls are available via webcast. Videos from the event are also available for purchase. Town Hall videos have been used as an independent informational resource by governmental agencies and industry and community groups. A summary of the Town Hall discussion is available free of charge at [www.metrans.org/outreach/townhall.html](http://www.metrans.org/outreach/townhall.html)

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## METRANS EDUCATION

# Giuliano Appointed by U.S. Transportation Secretary to Freight Advisory Committee

By Ben Dimapindan, USC

METRANS director Genevieve Giuliano, and METRANS Advisory Board Members Fran Inman of Majestic Realty and Randy Iwasaki of Contra Costa Transit, were recently selected by U.S. Transportation Secretary Ray LaHood to serve on the National Freight Advisory Committee.

The newly established committee, comprised of 47 leading scholars and professionals, will advise the secretary on a wide range of freight transportation-related topics. These include the implementation of new freight transportation requirements; the development of a national freight network and strategic plan; development of measures for freight performance and conditions; development of investment, data and planning tools; and legislative recommendations.

By participating in the advisory committee, Giuliano said her biggest hope is to develop a strong national freight policy.

"An efficient and sustainable freight system is essential to the national economy, and therefore a critical responsibility for the national government," she said. "Today we do not have what I would call a national freight policy, and this has all sorts of implications. Essential improvements – from a systems perspective – do not get done. What does get done is the result of ad-hoc, one-off arrangements that may or may not contribute to the efficiency of the national system or solve the highest priority problems."

The advisory committee members will offer guidance to improve the department's freight transportation policies and programs. Their collaboration will serve to foster involvement and compliance with proposed plans, and will promote the enactment of larger policy initiatives. Each member is expected to serve a two-year term and meet at least three times per year. The first meeting was June 25.

The establishment of this committee comes at a critical time with regard to freight transportation. The last four years has seen significant investments in the U.S. freight network, with the Department of Transportation directing \$1 billion toward projects that primarily involve freight. This funding includes more than \$650 million to projects that support freight rail infrastructure and reduce congestion and more than \$350 million for the port system.

The full list of National Freight Advisory Committee members can be viewed on the U.S. Department of Transportation website. Link to: <http://www.dot.gov/briefing-room/us-transportation-secretary-lahood-announces-national-freight-advisory-committee>

## METRANS EDUCATION

# Students Present Transportation Research at TRF

By Lei (Sylvia) Ge, USC MSCE 2014



USC students Jiangbo (Gabriel) Yu, Joongkoo (John) Cho, Qian (Jenny) Ouyang and Kate Amissah at TRF.

Six USC students presented their research at the 54th Annual Meeting of the Transportation Research Forum (TRF) in Annapolis, Maryland, held March 21 through March 23, 2013.

Daniel J. Epstein Department of Industrial and Systems Engineering PhD candidate Joongkoo Cho won the best student paper award for his paper titled, "Network Based Simulation of Air Pollution Emissions Associated with Truck Operations." With fellow ISE PhD student Weihong Hu, and advisors/METRANS researchers Peter Gordon and Mansour Rahimi, Cho's paper analyzed truck emission reduction scenarios, suggested policy recommendations, and introduced a new model to evaluate truck emission reduction policies that has capacity to analyze many types of policies aimed at reducing truck air pollution emissions.

Sol Price School of Public Policy PhD candidate in Urban Planning and Development Sandip Chakrabarti presented a paper titled, "New Applications for Real-Time Transportation Systems Data: Analyzing Impacts of Rail

Transit Investments." With his advisor, METRANS Director Genevieve Giuliano, his research focused on analyzing impacts of the new Los Angeles Metro Exposition light rail line on traffic patterns and transit use within its service corridor using archived real-time multi-modal transportation systems data.

Sol Price School of Public Policy Master of Planning student Jiani Li presented her paper titled, "Market Street Promenade: A Renaissance of Downtown Inglewood." She analyzed redevelopment opportunities in the City of Inglewood due to a new light rail line, and found that the proposed light rail line is expected to establish downtown Inglewood as a popular regional activity node along with enhancing city-level transit trip share.

Sonny Astani Department of Civil and Environmental Engineering Master of Transportation Engineering students Kate Amissah and Jiangbo Yu presented their paper titled, "ICM AMS Assessment Procedure Analysis with Traffic Simulation and Analysis Tools." They proposed a new method for evaluating Integrated Corridor Management projects/programs combining current microscopic traffic simulator and system dynamic software.

Sonny Astani Department of Civil and Environmental Engineering Master of Transportation Engineering student Qian Ouyang presented her paper titled, "Information Sharing in Traffic Incident Management." Her research centers on how Traffic Management Centers share information and manages emergent accidents happening on the highway.

TRF offers a valuable forum for graduate students studying transportation to gather and learn from each other and experts. "The people I met at the conference will be an important asset to me" said Joongkoo Cho. "The feedback I received at the presentation was very helpful and the best student paper award will definitely bring a positive impact to my future career," he added.

## METRANS EDUCATION

# Where Are They Now? Transportation Planner, Mengzhao Hu

by Chen "Terence" Tao, USC MPL 2014



Mengzhao Hu, USC MPL 2006

*This is the first in a series of articles spotlighting our transportation alumni. Mengzhao Hu, 2005 USC MPL, is currently working as a transportation planning consultant at Parsons Brinckerhoff in Orange County, California and is the President of the Southern California Chapter of the International Chinese Transportation Professionals Association.*

Born and raised in Shanghai, China, USC MPL graduate Mengzhao Hu witnessed firsthand the difficulty of moving through a very large and busy city. This experience sparked an interest in transportation as far back as she can remember. When she entered college, Hu was thrilled to have the opportunity to formally prepare for a career addressing the many challenges of transportation in cities like Shanghai. Hu majored in urban planning at Shanghai's Tongji University, where she completed her bachelor's degree. After graduation, she came directly to USC to study transportation planning at the graduate level.

Hu speaks highly of her time at USC. "I found the academic atmosphere and resources abundant and precious," she notes. "I view my studying experience at USC more as a build-up of research-conducting skills rather than just an exposure to urban planning knowledge. The systematic self-learning methods have enabled me to easily extend my boundaries when needed."

*continued on page 7*

## METRANS EDUCATION

# Student Research Showcased in Spring Seminar Series

By Christine Nguyen, Doctoral Student, USC ISE



Huayu (Cathy) Xu, USC ISE Doctoral Student

This spring, METRANS hosted a series of student showcase seminars highlighting research from doctoral students on transportation related issues. These seminars provide an opportunity for students to share their findings and research methods with their peers, professors, and incoming students.

Christine Nguyen, doctoral student in the USC Epstein ISE department and former METRANS student of the year presented "Near-Optimal Transportation with Perishable Products."

Her research focuses on minimizing the transportation costs of perishable products by consolidation. She showed that an easy-to-

implement optimization heuristic (termed "greedy" heuristic) performs well with performs well with deterministic demand. The results show that the greedy heuristic is preferable due to its simplicity and quick computation time. Christine is advised by Epstein ISE Professors Maged Dessouky and Alejandro Toriello. Her research interests include large multi-stage deterministic and stochastic models in transportation and logistics.

Yuting Hou, a doctoral student at the USC Price School of Public Policy, works with Professor Christian Redfearn and METRANS Director Genevieve Giuliano. Yuting is interested in the evolution of metropolitan spatial structure, transportation and urban growth, land use and spatial analysis. Her presentation, "An Examination of Spatial Structure and Productivity of U.S. Metropolitan Areas," centered on an analysis of the productivity of U.S. metropolitan areas. Using multiple economic data sources, she identified significant correlations and patterns in different characteristics of a metropolitan area with the level of productivity in the surrounding area's industries.

Qian An, a doctoral student in the USC Epstein ISE department working with Viterbi Vice Dean for Academic Affairs James Moore presented "Commuting Time and City Size: Testing Variances as well as Means." Her findings show that metropolitan areas continue to attract labor and capital. Qian analyzed the means and variances of commute time with respect to the population and showed that the largest metropolitan areas have commute times that increase only slightly with city size. As cities expand, employers and employees have incentives to co-locate. Qian's research interests are in transportation and logistics network design and optimization, large scale transportation system simulation, and economic impact modeling.

The importance of improving air quality has become a significant focus of transportation research partly due to the local, state and federal governments passing acts such as the Global Warming Solution Act of 2006 and the Sustainable Communities and Climate Protection Act of 2008. Joongkoo Cho's presentation, "Network Based Simulation of Air Pollution Emissions Associated with Truck Operations," tackled these issues. Joongkoo is a doctoral student in the USC Epstein ISE department working with Price Professor Peter Gordon. Joongkoo integrated multiple data sources and developed a model that estimates truck emissions based on truck flows with road networks. Using this emissions model, he concludes that replacing older trucks with newer clean trucks is very effective in reducing air pollution emissions. His research interests also include freight modeling, air pollution emissions modeling, and public health.

Huayu Xu is a doctoral student in the USC Epstein ISE department working on a three-year project, "The Transportation Market" with Professor Maged Dessouky. She presented "The Effect of Ridesharing in the Traffic Assignment Problem" in which she evaluated a ride-sharing system based on the traffic assignment problem models and demonstrated how to best price ride-sharing. In addition to the traffic assignment problem, her research interests include other transportation and logistics problems such as vehicle routing.

## Alumni Spotlight cont'd

While pursuing her master's degree at USC, Hu was offered a research assistantship with METRANS transportation faculty, Genevieve Giuliano and James Moore. She credits these professors as contributing to both her

Hu also shared her personal perspective as an international student on how to get the most out of graduate education in a foreign country. "It is not always easy to live overseas, let alone to be a highly competitive

**"Working with these insightful urban transportation scholars contributed greatly to the development of my research skills." Mengzhao Hu**

personal and professional development, and reflects that the experience helped her to succeed, both in her graduate degree and her chosen career. "Working with these insightful urban transportation scholars contributed greatly to the development of my research skills. I have applied these skills to my current work as a general consultant at Parsons Brinckerhoff, which largely consists of project analysis."

professional in such a competitive context," she acknowledges. "However, international students should be more courageous in class despite the language barrier, rather than staying within their comfort zone." she advises. "I also recommend trying to become involved in professional associations such as APA (American Planning Association), WTS (formerly the Women's Transportation Seminar) and so on as much as one can, which will eventually pay off in one's future professional career."

Hu suggests that students take advantage of the numerous METRANS transportation seminars to bridge the gap between knowledge and application. She pointed out that the cutting-edge research topics presented as well as the methods applied provide a broad overview of what is happening in the industry and how people do their jobs.

In closing, Hu expressed how fortunate she is to have found her career in transportation planning. "I very much enjoy the work I am doing now. I am lucky enough to do the work I love."

# METRANS Faculty

Since 1998, METRANS has funded over 100 faculty at USC and CSULB. Given METRANS' interdisciplinary theme, they are experts in engineering, business, economics, public policy, geography, planning, information sciences, public administration and health sciences. Current faculty are listed below.

## California State

### University, Long Beach

Chin Chang  
Anastasios Chassiakos  
Robert Chi  
Burkhard Englert  
Mohammed Forouzesh  
Elaine Frey  
Robert Friis  
Darin Goldstein  
Lisa Grobar  
Min He  
Kenneth James  
Christine Jocoy  
Tim Jordanides  
I-Hung Khoo  
Melody Kiang  
Shui Lam  
Christopher Lee  
Bei Lu

Joseph Magaddino  
Tracy Bradley Maples  
Panadda Marayong  
Wade Martin  
Chen Feng Ng  
Tang-Hung Nguyen  
Thomas O'Brien  
Emelinda Parentela  
Hamid Rahai  
Grace Reynolds  
Shadi Saadeh  
Antonella Sciortino  
Tariq Shehab-Eldeen  
Seiji Steimetz  
Reza Toossi  
Jalal Torabzadeh  
Fei Wang  
Suzanne Wechsler  
Xiaolong Wu  
Steven Yamarik

Guy Yamashiro  
Henry Yeh  
Hsien-Yang Yeh

## University of Southern California

Tridib Banerjee  
Hilda Blanco  
Marlon Boarnet  
Burcin Becerik-Gerber  
Hanh Dam Le-Griffin  
Maged Dessouky  
Roger Ghanem  
Genevieve Giuliano  
Peter Gordon  
Ramesh Govindan  
Martin Gundersen  
Randolph Hall  
Hossein Hashemi  
John Heidemann

Petros Ioannou  
Erik Johnson  
Behrokh Khoshnevis  
Sven Koenig  
Ilias Kosmatopoulos  
Martin Krieger  
Bhaskar Krishnamachari  
John Kuprenas  
LaVonna Lewis  
Sami Masri  
Najmedin Meshkati  
James E. Moore, II  
Dowell Myers  
Ulrich Neumann  
Fernando Ordóñez  
Gary Painter  
Kurt Palmer  
Alice Parker  
Viktor Prasanna  
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Mihailo Trifunac  
Theodore Tsotsis  
Hung Leung Wong



Sol Price School of Public Policy  
University of Southern California  
Ralph and Goldy Lewis Hall 238  
Los Angeles, California 90089-0626

Phone: 213-821-1025 Fax: 213-740-0001  
Email: giuliano@usc.edu

CSULB Phone: 562-985-2872  
Fax: 562-985-2873  
Email: marianne.venieris@csulb.edu



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Interim Director, Master of Arts in Global Logistics, CSULB

## METRANS Staff

Vicki Valentine, Administrator, USC  
(vicki.valentine@usc.edu)  
Alix Traver, Coordinator, CSULB  
(alix.traver@csulb.edu)

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